

ATTORNEY DOCKET NO.  
004578.1104

PATENT APPLICATION  
09/844,171

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REMARKS

Claims 1-2, 4-9, 13, 16, 18 and 28-54 are present in the application. In view of the remarks which follow, reconsideration is respectfully requested.

Patentable Subject Matter

Noted with appreciation is the indication in the Office Action that Claims 1, 16, 18 and 32-37, which were previously indicated to be allowed, are still indicated to be allowed.

Comment on Statement of Reasons for Allowance

In lines 13-16 on page 7 of the Office Action, the Examiner states a reason for the indication that Claims 1, 16, 18 and 32-37 have been allowed. Applicants agree that these claims are allowable. However, Applicants do not agree in all respects with the Examiner's statement. For example, Applicants believe that the Examiner's statement should not be interpreted to mean that the stated reason is the only reason supporting the allowability of Claims 1, 16, 18 and 32-37, and that there is no other reason which separately and independently supports the allowability of some or all of these claims.

Independent Claim 4

Claim 4 stands rejected under 35 U.S.C. §103 as obvious in view of a proposed combination of teachings from Hornbeck U.S. Patent No. 5,021,663 and Kimura U.S. Patent No.

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5,589,688. This ground of rejection is respectfully traversed, for the following reasons.

Claim 4 recites first and second electrodes that absorb thermal energy, that are coupled to a thermally sensitive material, and that are "made from an alloy which includes aluminum and titanium". Hornbeck discloses electrodes that can absorb infrared radiation, but the Examiner concedes in the Office Action that Hornbeck does not disclose electrodes which are made from an alloy of titanium and aluminum. The Examiner therefore turns to Kimura. In particular, the Examiner notes that Kimura has wires 5 which can be made from an alloy of titanium and aluminum. The Examiner then asserts that the wires 5 are "electrodes", and that the wires 5 could be substituted for the electrodes disclosed in Hornbeck. Applicants respectfully disagree.

In the first paragraph on page 8 of the Office Action, the Examiner offers a dictionary definition of the word "electrode", indicating that this word means "a conductor used to establish electrical contact with a nonmetallic part of a circuit". The Examiner indicates that this definition is from "Merriam-Webster's Dictionary". However, it not clear which of a variety of different Merriam-Webster dictionaries the Examiner is referring to, nor was the Office Action accompanied by a photocopy of selected pages from the particular dictionary on which the Examiner is relying. To the extent that the Examiner relies on this dictionary definition without providing a photocopy of relevant pages from the dictionary, it is respectfully submitted that the Office Action is incomplete. Applicants are bringing this defect to the attention of the

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Examiner within one month after mailing of the incomplete Office Action, and hereby make an express request that the defect be corrected and that the period for a reply be restarted. Pursuant to MPEP §710.06, the defect in the Office Action should be corrected, and the period for a reply should be restarted.

In an effort to expedite examination of the present application, notwithstanding the fact that Office Action is incomplete, Applicants wish to offer a few comments regarding why the §103 rejection is wrong. In Figure 2 of the Kimura patent, region 2 is a p-type single crystal silicon material which has been doped sufficiently with an n-type impurity so that it is effectively a n-type single crystal silicon material (see line 5-36 in column 7 of Kimura). Region 2 is thus a non-metallic material. Kimura explains that reference numeral 2a is a cathode electrode (positive electrode) for a Schottky barrier thermistor formed by the Schottky junction between the regions 2 and 11. Assuming for the sake of discussion that the unsupported dictionary definition offered by the Examiner is accurate, Kimura uses the word "electrode" in a manner which is entirely consistent with this definition. In particular, Kimura's "electrode" 2a is a conductor which is used to establish electrical contact with a non-metallic part 2 of the circuit.

In the pending Office Action, the Examiner asserts that the wire 5 of Kimura is an electrode for the element 2a. In effect, the Examiner is asserting that the wire 5 leading to Kimura's "electrode" 2a is actually an electrode 5 for the electrode 2a. Applicants respectfully submit that it is silly to assert that Kimura's electrode 2a needs its own electrode 5.

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In other words, the assertion by the Examiner that the wire 5 is an electrode for an electrode is repugnant to what persons skilled in the art would typically consider to be an "electrode" (notwithstanding the dictionary definition offered by the Examiner). In effect, the Examiner's position exalts form over substance, and the only apparent reason for doing so is hindsight of the present invention. In particular, the Examiner used hindsight of the present invention to find an element in the prior art which is made of titanium-aluminum (i.e. Kimura's wire 5), and then used still more hindsight to try to theorize that the wire 5 is an "electrode", even though persons skilled in the art would not even remotely consider the wire 5 to be a "electrode".

The fact that the Examiner is using hindsight becomes even more evident when it is recognized that Kimura expressly teaches away from the proposed combination of teachings. In this regard, Applicants' Claim 4 recites that the "first and second electrodes are made of a material which absorbs thermal energy", and then goes on to specify that this material is "an alloy which includes aluminum and titanium". The Hornbeck device has electrodes which absorb infrared radiation, but these electrodes are not made of a titanium-aluminum alloy. The Examiner therefore asserts that the titanium-aluminum wires 5 of Kimura could be substituted for the infrared-absorbing electrodes of Hornbeck. However, even though the wires 5 of Kimura are made of titanium-aluminum, Kimura teaches at lines 55-57 of column 6 that the electrical wires 5 are intentionally configured to have a small width and a small thickness, for the specific purpose of minimizing heat conduction. In other words,

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the electrical wires 5 of Kimura are specifically designed so that they do not conduct or absorb any significant amount of thermal energy. Substituting the non-infrared-absorbing wires 5 of Kimura for the infrared absorbend electrodes of Hornbeck would cause the Hornbeck device to end up with electrodes that do not absorb infrared radiation, thereby rendering the Hornbeck device inoperative. As pointed out in MPEP §2143.01, if a proposed modification to a prior art device would change its principle of operation or render it inoperative, the modification is not obvious modification under §103. Consequently, the proposed modification of Hornbeck in view of Kimura would not be obvious under §103.

In lines 12-13 on page 8 of the Office Action, the Examiner concedes that Kimura teaches away from the use of titanium-aluminum alloy to absorb infrared radiation. But in the next sentence, the Examiner simply ignores the fact that Kimura teaches directly away from the use of a titanium-aluminum alloy to absorb infrared radiation, and asserts that Kimura would actually guide a person of ordinary skill in the art to use a titanium-aluminum alloy to absorb infrared radiation. As a result, the Examiner's position is directly contrary to the well-established PTO policy set forth in MPEP §2141.02, which specifies that the teachings of a prior art reference such as Kimura must be considered in their entirety, including portions that teach away from the invention. To the extent that the Examiner here is ignoring selected portions of Kimura which do not support the result that the Examiner wishes to reach, the only reason for doing so is the improper use of hindsight of the present invention. Applicants respectfully submit that, if

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examination of the present application is carried out in compliance with PTO policy, the Examiner must take into account the provisions of Kimura which expressly teach that the titanium-aluminum wires of Kimura are intentionally configured to avoid the conduction or absorption of infrared radiation. Therefore, and since Kimura appears to have absolutely no teachings to the contrary, it should be clear that it would not be obvious under §103 to replace the material of the infrared-absorbing electrodes of Hornbeck with the titanium-aluminum material of the non-infrared-absorbing wires of Kimura.

A separate and independent problem with the §103 rejection of Claim 4 is that it fails to meet one of the fundamental requirements for a proper §103 rejection. In particular, even where a prior art device such Hornbeck may be capable of being modified, the Examiner is required to demonstrate (1) that there is motivation to make the proposed modification, and (2) that the motivation originates in the prior art. Applicants' last Response pointed out this defect in the §103 rejection. Surprisingly, the Examiner has made absolutely no attempt to cure this fundamental defect.

In more detail, the latest Office Action does not attempt to satisfy the standard requirement that a §103 rejection must establish motivation. Instead, the Examiner cites MPEP §2144.06 for the proposition that "an express suggestion to substitute one equivalent component for another is not necessary to render such substitution obvious". However, the Examiner misinterprets the meaning of this quoted language. In particular, even though this quotation suggests that a reference does not have to expressly suggest a substitution,

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this does not mean that the Examiner is completely relieved from the obligation to demonstrate motivation. In fact, the issue of whether a reference expressly suggests a substitution is different from the issue of the Examiner's obligation to establish motivation. As evident from MPEP §2143.01, the Examiner must always establish motivation, without regard to whether or not a reference offers an express suggestion regarding substitution of one part for another. Of course, where a reference offers an express statement suggesting substitution, the Examiner's task of showing motivation may be somewhat easier. On the other hand, in a situation where, as here, the reference fails to offer any express statement suggesting substitution, the Examiner must still meet the requirement of demonstrating motivation, but faces a significantly more difficult task. And this task is particularly difficult where, as here, the Examiner admits that one of the references expressly teaches away from the proposed combination.

In regard to motivation, the attention of the Examiner is respectfully directed to the relatively recent opinion of the Court of Appeals for the Federal Circuit in the case of *In re Dembiczak*, 175 F.3d 994, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999). For the convenience of the Examiner, a copy of this Federal Circuit decision is enclosed, and the Examiner should bear in mind that the *Dembiczak* decision is considered to be a leading decision of the Federal Circuit on the issue of motivation in obviousness analysis. In more detail, *Dembiczak* filed a patent application disclosing a trash bag which was of orange color, and which had facial markings on it so that, when stuffed with

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leaves or trash, it would have the general appearance of a large pumpkin with a face. The examiner rejected the claims, on the ground it would have been obvious to take a "conventional" plastic lawn or trash bag and to modify it in view of a children's book, which described a method of making a paper bag pumpkin by stuffing a paper bag with newspapers, painting it orange, and then painting on facial features with black paint. The children's book did not include any express suggestion to substitute a conventional plastic trash bag for the conventional paper bag. The PTO Board of Appeals affirmed the examiner's rejection.

Taking the theory advanced by the Examiner in the present application, and applying that theory to the *Dembiczak* facts, the obviousness rejection in *Dembiczak* would seem at first glance to be correct and proper without any need to demonstrate motivation. In particular, even though the children's book did not include an express suggestion to substitute a conventional plastic trash bag for the conventional paper bag, the Examiner's theory is that "an express suggestion to substitute one equivalent component for another is not necessary to render such substitution obvious". However, the examiner handling the *Dembiczak* application was found to be wrong and, for the same reason, the Examiner handling the present application is wrong. More specifically, in *Dembiczak*, the examiner and the PTO Board were both reversed by the Court of Appeals for the Federal Circuit, on the ground that the examiner had failed to provide any evidence of a suggestion, teaching or motivation to make the indicated combination of

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teachings from the prior art. In this regard, the Federal Circuit stated that:

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.... Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight.... We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved.... The range of sources available, however, does not diminish the requirement for actual evidence.... Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence.".... Nowhere does the Board particularly identify any suggestion, teaching, or motivation to combine the children's art references (Holiday and Shapiro) with the conventional trash or lawn bag references, nor does the Board make specific -- or even inferential -- findings concerning the identification of the relevant art, the level of ordinary skill in the art, the nature of the problem to be solved, or any other factual findings that might serve to support a proper obviousness analysis.... Because we do not discern any finding by the Board that there was a suggestion, teaching, or motivation to

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combine the prior art references cited against the pending claims, the Board's conclusion of obviousness, as a matter of law, cannot stand.  
*Id.* at 999-1000 (emphasis added).

In the present application, the Examiner continues to remain absolutely silent as to why there would be "a suggestion, teaching, or motivation to combine" Hornbeck and Kimura in the proposed manner. The Examiner did not even make a "broad conclusory statement" of the type criticized by the Federal Circuit, much less provide any actual evidence of a suggestion, teaching or motivation to combine. The Federal Circuit expressly requires evidence, and the Examiner here has provided none. In fact, the Examiner has done nothing more than what the Federal Circuit expressly prohibited in *Dembiczak*. In particular, in the words of the Federal Circuit, the Examiner here has simply used Applicants' disclosure "as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight". The Federal Circuit has rejected this approach as improper. It is therefore respectfully submitted that the \$103 obviousness rejection of Claim 4 in the present Office Action is inherently defective, because it completely fails to even discuss a suggestion, teaching or motivation to combine Hornbeck and Kimura, much less provide supporting evidence of the type expressly required by the Federal Circuit.

For the foregoing reasons, it is respectfully submitted that the \$103 rejection of Claim 4 is defective and must be withdrawn. Claim 4 is therefore believed to be allowable, and notice to that effect is respectfully requested.

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Independent Claim 28

Independent Claim 28 includes a limitation reciting the step of "selecting as a material for said first and second electrodes an alloy which contains titanium and aluminum". Claim 28 stands rejected under 35 U.S.C. §103 as obvious in view of Hornbeck and Kimura, based on the same rationale which was applied to Claim 4. This ground of rejection is respectfully traversed. In particular, for reasons similar to those discussed above in association with Claim 4, it is respectfully submitted that Claim 28 would not be obvious in view of Hornbeck and Kimura. Claim 28 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Independent Claim 39

Independent Claim 39 is directed to an apparatus which includes an infrared detector with a plurality of detector elements that include "structure which is made of an alloy containing titanium and aluminum", and "which absorbs thermal energy from infrared radiation that impinges on the detector element". Claim 39 stands rejected under 35 U.S.C. §103 as obvious in view of a combination of teachings from Hornbeck and Kimura, based on the same basic rationale used to reject Claim 4. This ground of rejection is respectfully traversed. More specifically, for reasons similar to those discussed above in association with Claim 4, it is respectfully submitted that the subject matter of Claim 39 would not be obvious under §103 in view of Hornbeck and Kimura. Claim 39 is therefore believed to

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be allowable, and notice to that effect is respectfully requested.

Independent Claim 47

Independent Claim 47 is a method claim, which includes limitations similar to those discussed above in association with apparatus Claim 39. For example Claim 47 recites a method of making of infrared detector that has a plurality of detector elements, including "fabricating structure which is made of an alloy containing titanium and aluminum", and "which absorbs thermal energy from infrared radiation that impinges on the detector element". Claim 47 stands rejected under 35 U.S.C. §103 as obvious in view of a combination of teachings from Hornbeck and Kimura, based on the same basic rationale used to reject Claim 4. This ground of rejection is respectfully traversed. In particular, for reasons similar to those discussed above in association with Claim 4, it is respectfully submitted that Claim 47 would not be obvious in view of Hornbeck and Kimura. Claim 47 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Dependent Claims

Claims 2, 5-9 and 13, Claim 29-31 and 38, Claims 40-46, and Claims 48-54 respectively depend from Claim 4, Claim 28, Claim 39 and Claim 47, and are also believed to be allowable over the art of record, for example for the same reasons discussed above with respect to Claims 4, 28, 39 and 47, respectively.

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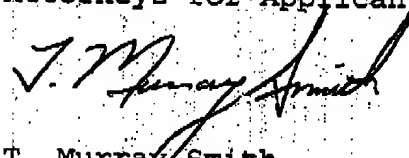
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Conclusion

Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at (214) 953-6684.

Although Applicants believe that no additional fees are due, the Commissioner is hereby authorized to charge any fees required by this paper, or to credit any overpayment, to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,  
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Enclosures: Copy of Dembiczak decision (7 pages)

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*In re Dembiczak*

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patent violate the written description requirement of section 112, 11. But to state the argument is to realize its objection; as we discussed above, the written description of the '835 patent provides ample support for the ordinary and accustomed meaning of the terms of the '835 claims. Thus, the '835 claims, as construed by the district court and this court, are entitled to the benefit of the filing date of the '586 application. No violation of section 102(b)'s on-sale bar has occurred.

## IV

Zebco has failed to demonstrate to this court that the disputed claim terms of claim 1 of the '835 patent should be interpreted in a way other than their ordinary and accustomed meaning. Therefore, we find that the district court's claim interpretation, and the summary judgment of infringement conditioned thereon, was not erroneous. We also hold that the district court correctly determined that the relevant claim of the '835 patent, as construed, is not invalid. The judgment of the district court is affirmed.

**AFFIRMED.**

U.S. Court of Appeals  
Federal Circuit

*In re Dembiczak*

No. 98-1498

Decided April 28, 1999

**PATENTS**

1. Patentability/Validity — Obviousness —  
Combining references (§115.0905)

Decision rejecting claims in utility application as obvious over combination of prior art references must be reversed, since obviousness analysis in decision is limited to discussion of ways that multiple references can be combined to read on claimed invention, but does not particularly identify any suggestion, teaching, or motivation to combine references, and does not include specific or inferential findings concerning identification of relevant art, level of ordinary skill in art, nature of problem to be solved, or any other factual findings that might support proper obviousness analysis.

2. Patentability/Validity — Anticipation —  
Double patenting (§115.0708)

Obviousness-type double patenting may be found between design and utility patents in rare cases, but such rejection is appropriate only if claims of two patents cross-read, meaning that subject matter of claims of patent sought to be invalidated would have been obvious from subject matter of claims of other patent, and vice-versa.

3. Patentability/Validity — Anticipation —  
Double patenting (§115.0708)

Applicants' design patents for bag with jack-o'-lantern face would not have been obvious variants of their pending utility claims directed to trash bag decorated to resemble Halloween pumpkin when filled with trash or leaves, since textual description of "facial indicia" on bag found in claims of utility patent application cannot constitute design reference that is "basically the same as" specific designs claimed in applicants' patentably distinct design patents.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Application of Anita Dembiczak and Benson Zinbarg for utility patent (application serial no. 08/427,732). From decision sustaining rejections of claims in application, applicants appeal. Reversed.

David P. Gordon and Thomas A. Gallagher,  
Stamford, Conn., for appellants.

John M. Whealan, associate solicitor, Albin F. Dröst, acting solicitor, and David R. Nicholson, associate solicitor, Office of the Solicitor, Arlington, Va., for appellee.

Before Mayer, chief judge, and Michel and Clevenger, circuit judges.

Clevenger, J.

Anita Dembiczak and Benson Zinbarg appeal the rejection, upheld by the Board of Patent Appeals and Interferences, of all pending claims in their Application No. 08/427,732. See *Ex Parte Dembiczak*, No. 96-2648, slip op. at 43 (May 14, 1998). Because the Board erred in sustaining rejections of the pending claims as obvious under 35 U.S.C. § 103(a) (Supp. 1998), and for obviousness-type double patenting, we reverse.

The invention at issue in this case is, generally speaking, a large trash bag made of orange plastic and decorated with lines and facial features, allowing the bag, when filled with trash or leaves, to resemble a Halloween-style pumpkin, or jack-o'-lantern. As the inventors, Anja Dembiczak and Benson Zinbarg (collectively, "Dembiczak") note, the invention solves the long-standing problem of unsightly trash bags placed on the curbs of America, and, by fortuitous happenstance, allows users to express their whimsical or festive nature while properly storing garbage, leaves, or other household debris awaiting collection. Embodiments of the invention—sold under a variety of names, including Giant Stuff-A-Pumpkin®, Funkins, Jack Sak®, and Bag-O-Fun®—have undisputedly been well-received by consumers, who bought more than seven million units in 1990 alone. Indeed, in 1990, the popularity of the pumpkin bags engendered a rash of thefts around Houston, Texas, leading some owners to resort to preventative measures, such as greasing the bags with petroleum jelly and tying them to trees. See R. Piller, "Halloween Hopes Die on the Vine," *Hous. Chron.*, Oct. 19, 1990, at 13A.

The road to profits has proved much easier than the path to patentability, however. In July 1989, Dembiczak filed a utility patent application generally directed to the pumpkin bags. In a February 1992 appeal, the Board of Patent Appeals and Interferences ("the Board") reversed the Examiner's rejection, but entered new grounds for rejection. Dembiczak elected to continue prosecution, filing a continuation application to address the new grounds for rejection. Thereafter, the invention made a second appearance before the Board, in April 1993, when the Board both sustained the Examiner's rejection and again entered new grounds for rejection. Again, a continuation application was filed (the instant application). And again the Examiner's rejection was appealed to the Board, which sustained the rejection in a May 14, 1998, decision. See *Dembiczak*, slip op. at 43.

## A

The patent application at issue includes claims directed to various embodiments of the pumpkin bag. Claims 37, 49, 51, 52, 58 through 64, 66 through 69, and 72 through 81 are at issue in this appeal. Though the

claims vary, independent claim 74 is perhaps most representative:

74. A decorative bag for use by a user with trash filling material, the bag simulating the general outer appearance of an outer surface of a pumpkin having facial indicia thereon, comprising:  
a flexible waterproof plastic trash or leaf bag having

an outer surface which is premanufactured orange in color for the user to simulate the general appearance of the outer skin of a pumpkin, and having facial indicia including at least two of an eye, a nose and a mouth on the orange color outer surface for forming a face pattern on said orange color outer surface to simulate the general outer appearance of a decorative pumpkin with a face thereon,

said trash or leaf bag having first and second opposite ends, at least said second end having an opening extending substantially across the full width of said trash or leaf bag for receiving the trash filling material,

wherein when said trash or leaf bag is filled with trash filling material and closed, said trash or leaf bag takes the form and general appearance of a pumpkin with a face thereon.

All of the independent claims on appeal, namely 37, 52, 72, and 74, contain limitations that the bag must be "premanufactured orange in color," have "facial indicia," have openings suitable for filling with trash material, and that when filled, the bag must have a generally rounded appearance, like a pumpkin. Independent claims 37, 52, and 72 add the limitation that the bag's height must be at least 36 inches. Claim 72 requires that the bag be made of a "weatherproof material," and claim 74, as shown above, requires that the bag be "waterproof." Claim 52 recites a "method of assembling" a bag with the general characteristics of apparatus claim 37.

## B

The prior art cited by the Board includes:

(1) pages 24-25 of a book entitled "A Handbook for Teachers of Elementary Art," by Holiday Art Activities ("Holiday"), describing how to teach children to make a "Crepe Paper Jack-O-Lantern" out of a strip of orange crepe paper, construction paper cut-outs in the shape of facial features, and "wadded newspapers" as filling;

(2) page 73 of a book entitled "The Everything Book for Teachers of Young Chil-

dren," by Martha Shapiro and Valerie Indenbaum ("Shapiro"), describing a method of making a "paper bag pumpkin" by stuffing a bag with newspapers, painting it orange, and then painting on facial features with black paint;

(3) U.S. Patent No. 3,349,991 to Leonard Kessler, entitled "Flexible Container" ("Kessler"), describing a bag apparatus wherein the bag closure is accomplished by the use of folds or gussets in the bag material;

(4) U.S. Patent No. Des. 310,023, issued August 21, 1990 to Dembiczak ("Dembiczak '023"), a design patent depicting a bag with a jack-o'-lantern face;

(5) U.S. Patent No. Des. 317,254, issued June 4, 1991 to Dembiczak ("Dembiczak '254"), a design patent depicting a bag with a jack-o'-lantern face; and,

(6) Prior art "conventional" plastic lawn or trash bags ("the conventional trash bags").

Using this art, the Board affirmed the Examiner's final rejection of all the independent claims (37, 52, 72, 74) under 35 U.S.C. § 103, holding that they would have been obvious in light of the conventional trash bags in view of the Holiday and Shapiro references. The Board determined that, in its view of the prior art, "the only difference between the invention presently defined in the independent claims on appeal and the orange plastic trash bags of the prior art and the use of such bags resides in the application of the facial indicia to the outer surface of the bag." *Dembiczak*, slip op. at 18. The Board further held that the missing facial indicia elements were provided by the Holiday and Shapiro references' description of painting jack-o'-lantern faces on paper bags. *See id.* at 18-19. Dependent claims 49 and 79, which include a "gussets" limitation, were considered obvious under similar reasoning, except that the references cited against them included Kessler. *See id.* at 7.

The Board also affirmed the Examiner's obviousness-type double patenting rejection of all the independent claims in light of the two Dembiczak design patents ('023 and '254) and Holiday. *See id.* at 12. The Board held that the design patents depict a generally rounded bag with jack-o'-lantern facial indicia, and that the Holiday reference supplies the missing limitations, such as the "thin, flexible material" of manufacture, the orange color, the initially-open upper end, and the trash filling material. The Board also stated that the various limitations of the dependent claims—e.g., color, the inclusion of leaves as stuffing, and the dimensions—would all be obvious variations of the depic-

tions in the Dembiczak design patents. *See id.* at 8-9. In addition, using a two-way test for obviousness-type double patenting, the Board held that the claims of the Dembiczak design patents "do not exclude" the additional structural limitations of the pending utility claims, and thus the design patents were merely obvious variations of the subject matter disclosed in the utility claims. *See id.* at 11. The Board further upheld, on similar grounds and with the inclusion of the Kessler reference, the obviousness-type double patenting rejection of dependent claim 49. *See id.* at 12.

This appeal followed, vesting this court with jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A) (1994).

## II

A claimed invention is unpatentable if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (Supp. 1998); *see Graham v. John Deere Co.*, 383 U.S. 1, 14, 148 USPQ 459, 465 (1966). The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *See Graham*, 383 U.S. at 17-18, 148 USPQ at 467; *Miles Labs, Inc., Inc. v. Shandon Inc.*, 997 F.2d 870, 877, 27 USPQ2d 1123, 1128 (Fed. Cir. 1993). We therefore review the ultimate determination of obviousness without deference to the Board, while examining any factual findings for clear error. *See, e.g., In re Zurko*, 142 F.3d 1447, 1459, 46 USPQ2d 1691, 1700 (Fed. Cir.) (en banc), *cert. granted*, 119 S. Ct. 401 (1998).

## A

Our analysis begins in the text of section 103 quoted above, with the phrase "at the time the invention was made." For it is this phrase that guards against entry into the "tempting but forbidden zone of hindsight," *see Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873, 228 USPQ 90, 98 (Fed. Cir. 1985), *overruled on other grounds by Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 46 USPQ2d 1097 (Fed. Cir.



1998), when analyzing the patentability of claims pursuant to that section. Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See, e.g., *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983). Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *Id.*

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination"). See also *Graham*, 383 U.S. at 18, 148 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight. See, e.g., *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138,

227 USPQ 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time."). In this case, the Board fell into the hindsight trap.

We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, see *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), *Para-Ordinance Mfg. v. SGS Imports Intern., Inc.*, 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," *Rouffet*, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." E.g., *McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact."); *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977) ("The examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection."). In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes, including: (1) clear explication of the position adopted by the Examiner and the Board; (2) identification of the factual disputes, if any, between the applicant and the Board; and (3) facilitation of review on appeal. Here, however, the Board did not make particular findings regarding the locus of the suggestion, teaching, or motivation to combine the prior art references.

[1] All the obviousness rejections affirmed by the Board resulted from a combination of prior art references, e.g., the conventional trash or yard bags, and the Holiday and Shapiro publications teaching the construction of decorated paper bags. See *Dembiczak*, slip op. at 6-7. To justify this combination, the Board simply stated that "the Holiday and Shapiro references would have

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suggested the application of . . . facial indicia to the prior art plastic trash bags." *Id.* at 18-19. However, rather than pointing to specific information in Holiday or Shapiro that suggest the combination with the conventional bags, the Board instead described in detail the similarities between the Holiday and Shapiro references and the claimed invention, noting that one reference or the other—in combination with each other and the conventional trash bags—described all of the limitations of the pending claims. *See id.* at 18-28. Nowhere does the Board particularly identify any suggestion, teaching, or motivation to combine the children's art references (Holiday and Shapiro) with the conventional trash or lawn bag references, nor does the Board make specific—or even inferential—findings concerning the identification of the relevant art, the level of ordinary skill in the art, the nature of the problem to be solved, or any other factual findings that might serve to support a proper obviousness analysis. *See, e.g., Pro-Mold & Tool*, 75 F.3d at 1573, 37 USPQ2d at 1630.

To the contrary, the obviousness analysis in the Board's decision is limited to a discussion of the ways that the multiple prior art references can be combined to read on the claimed invention. For example, the Board finds that the Holiday bag reference depicts a "premanufactured orange" bag material, *see Dembiczak*, slip op. at 21, finds that Shapiro teaches the use of paper bags in various sizes, including "large", *see id.* at 22-23, and concludes that the substitution of orange plastic for the crepe paper of Holiday and the paper bags of Shapiro would be an obvious design choice, *see id.* at 24. Yet this reference-by-reference, limitation-by-limitation analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention. *See Rouffet*, 149 F.3d at 1357, 47 USPQ2d at 1459 (noting Board's failure to explain, when analyzing the prior art, "what specific understanding or technical principle . . . would have suggested the combination"). Because we do not discern any finding by the Board that there was a suggestion, teaching, or motivation to combine the prior art references cited against the pending claims, the Board's conclusion of obviousness, as a matter of law, cannot stand. *See C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232; *Rouffet*, 149 F.3d at 1359, 47 USPQ2d at 1459; *Fritch*, 972 F.2d at 1265, 23 USPQ2d at 1783; *Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600; *Ashland Oil*, 776 F.2d at 297, 227 USPQ at 667.

The Commissioner of Patents and Trademarks ("Commissioner") attempts to justify the Board's decision on grounds different from that relied upon by the Board, arguing that one of ordinary skill in the art would have been motivated to combine the references. Of course, in order to do so, the Commissioner must do what the Board did not do below: make specific findings of fact regarding the level of skill in the art ("a designer and manufacturer of trash and leaf bags, particularly one specializing in the ornamental and graphic design of such bags"), *Resp't Br.* at 14, the relationship between the fields of conventional trash bags and children's crafts, respectively ("[t]he artisan would also have been well aware of the ancillary, corollary, and atypical uses of 'trash' bags such as their application in hobby and art projects"), *Resp't Br.* at 15, and the particular features of the prior art references that would motivate one of ordinary skill in a particular art to select elements disclosed in references from a wholly different field ("a designer and manufacturer of trash and leaf bags would have recognized the paper bag in Shapiro to be a trash bag and therefore would have been motivated to combine it with the admitted prior art plastic trash and leaf bags to arrive at the claimed invention"), *Resp't Br.* at 15. The Commissioner also appears to cite additional references in support of his obviousness analysis, noting that at least two design patents (in the record but not cited against the presently pending claims) teach the placement of "graphical information, including text, designs, and even facial indicia, to colored bags," *Resp't Br.* at 16. This new analysis, apparently cut from whole cloth in view of appeal, does little more than highlight the shortcomings of the decision below, and we decline to consider it. *See, e.g., In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) ("We decline to consider [the Commissioner's] newly-minted theory as an alternative ground for upholding the agency's decision."); *In re Sord*, 54 F.3d 746, 751, 34 USPQ2d 1684, 1688 (Fed. Cir. 1995); *In re Hounsfield*, 699 F.2d 1320, 1324, 216 USPQ 1045, 1049 (Fed. Cir. 1983) (rejecting an "attempt[ ] by the Commissioner 'to apply a new rationale to support the rejection.'"); *see also* 35 U.S.C. § 144 (1994) (an appeal to the Federal Circuit "is taken on the record before The Patent and Trademark Office"). Because the Board has not established a *prima facie* case of obviousness, *see In re Bell*, 991 F.2d 781,

783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) ("The PTO bears the burden of establishing a case of *prima facie* obviousness."), we therefore reverse the obviousness rejections, and have no need to address the parties' arguments with respect to secondary factors.

### III

Dembiczak also asks this court to reverse the Board's rejection of the pending claims for obviousness-type double patenting, which is a judicially-created doctrine that seeks to prevent the applicant from expanding the grant of the patent right beyond the limits prescribed in Title 35. See, e.g., *In re Braat*, 937 F.2d 589, 592, 19 USPQ2d 1289, 1291-92 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 892, 225 USPQ 645, 648 (Fed. Cir. 1985). See also 35 U.S.C. § 154(a)(2) (Supp. 1998) (discussing patent term). The doctrine prohibits claims in a second patent which define "merely an obvious variation" of an invention claimed by the same inventor in an earlier patent. *Braat*, 937 F.2d at 592, 19 USPQ2d at 1292 (quoting *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970)). Thus, unless a claim sought in the later patent is patentably distinct from the claims in an earlier patent, the claim must be rejected. See *In re Goodman*, 11 F.3d 1046, 1052, 29 USPQ2d 2010, 2015 (Fed. Cir. 1993); *Vogel*, 422 F.2d at 441, 164 USPQ at 622. This question is one of law, which we review *de novo*. See *Goodman*, 11 F.3d at 1052, 29 USPQ2d at 2015; *Texas Instruments Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1179, 26 USPQ2d 1018, 1029 (Fed. Cir. 1993).

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[2] The law provides that, in some very rare cases, obvious-type double patenting may be found between design and utility patents. See *Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 939-40, 220 USPQ 481, 487 (Fed. Cir. 1983) (noting that, while theoretically possible, "[d]ouble patenting is rare in the context of utility versus design patents"); *In re Thorington*, 418 F.2d 528, 536-37, 163 USPQ 644, 650 (CCPA 1969) (Double patenting between a design and utility patent is possible "if the features producing the novel aesthetic effect of a design patent or application are the same as those recited in the claims of a utility patent or application as producing a novel structure."); *In re Phelan*, 205 F.2d 183, 98 USPQ 156 (CCPA 1953);

*In re Barber*, 81 F.2d 231, 28 USPQ 187 (CCPA 1936); *In re Hargraves*, 53 F.2d 900, 11 USPQ 240 (CCPA 1931). In these cases, a "two-way" test is applicable. See *Carman*, 724 F.2d at 940, 220 USPQ at 487. Under this test, the obviousness-type double patenting rejection is appropriate only if the claims of the two patents cross-read, meaning that "the test is whether the subject matter of the claims of the patent sought to be invalidated would have been obvious from the subject matter of the claims of the other patent, and vice versa." *Id.*, 220 USPQ at 487. See also *Braat*, 937 F.2d at 593, 19 USPQ2d at 1292 (explaining two-way test).

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In making its double patenting rejection, the Board concluded that all but one of the pending claims of Dembiczak's utility application would have been merely an obvious variation of the claims of the earlier-issued design patents—the Dembiczak '023 and '254 references—in light of the Holiday reference. The remaining claim, dependent claim 49, was judged obvious in light of the combination of the Dembiczak design patents, Holiday, and the Kessler reference.

[3] Acknowledging that the two-way test was required by *Carman*, 724 F.2d at 940, 220 USPQ at 487, the Board concluded that "the design claimed in each of appellants' design patents does not exclude the features pertaining to the construction and color of the bag, the use of a plastic material for making the bag, the size or thickness of the bag . . . or the use of various types of filling material . . . . The particular details of the facial indicia would have been a matter of design choice as evidenced by the Holiday handbook," and that therefore, in view of Holiday, the claims of the design patents were obvious variants of the pending utility patent claims. See *Dembiczak*, slip op. at 11. We disagree. In order for a design to be unpatentable because of obviousness, there must first be a basic design reference in the prior art, the design characteristics of which are "basically the same as the claimed design." *In re Borden*, 90 F.3d 1570, 1574, 39 USPQ2d 1524, 1526 (Fed. Cir. 1996); *In re Rosen*, 673 F.2d 388, 391, 213 USPQ 347, 350 (CCPA 1982). The phrase "having facial indicia thereon" found in the claims of the pending utility application is not a design reference that is "basically the same as the claimed design." *Borden*, 90 F.3d at 1574, 39 USPQ2d at 1526. In fact, it describes precious little with respect to design charac-

teristics. The Board's suggestion that the design details were simply "a matter of design choice" evinces a misapprehension of the subject matter of design patents. *E.g.*, *Carman*, 724 F.2d at 939 n.13, 220 USPQ at 486 n.13 ("Utility patents afford protection for the mechanical structure and function of an invention whereas design patent protection concerns the ornamental or aesthetic features of a design.") Indeed, we note that the two design patents at issue here—the Dembiczak '023 and '254 patents—were considered nonobvious over each other, and were even the subject of a restriction requirement. *See* 35 U.S.C. § 121 (1994) ("If two or more independent and distinct inventions are claimed in one application, the Commissioner may require the application to be restricted to one of the inventions."); 37 C.F.R. § 1.142. The position adopted by the Board—that a textual description of facial indicia found in the claims of the utility patent application makes obvious the specific designs claimed in the (patentably distinct) Dembiczak design patents—would presumably render obvious, or even anticipate, all design patents where a face was depicted on a bag. But this, of course, is not the law; the textual description cannot be said to be a reference "basically the same as the claimed design," of the design patents at issue here. *Borden*, 90 F.3d at 1574, 39 USPQ2d at 1526 (internal quotation marks omitted). The Board's conclusion of obviousness is incorrect.

Because we find that the Board erred in concluding that the design patents were obvious variants of the pending utility claims, we need not address the other prong of the two-way double patenting test—whether the pending utility claims are obvious variations of the subject matter claimed in the design patents. *See Carman*, 724 F.2d at 939, 220 USPQ at 487 (both prongs of the two-way test required for obviousness-type double patenting). The double patenting rejections are reversed.

#### IV

Because there is no evidence in the record of a suggestion, teaching, or motivation to combine the prior art references asserted against the pending claims, the obviousness rejections are reversed. In addition, because the Board misapprehended the test for obviousness-type double patenting, and because the pending utility claims do not render obvious the design patents, the double patenting rejections are also reversed.

#### REVERSED.

#### U.S. District Court Southern District of Iowa

University of Iowa Research Foundation v.  
Beveridge, DeGrandi, Weillacher & Young  
L.L.P.

No. 3-98-CV-90013

Decided August 26, 1998

#### JUDICIAL PRACTICE AND PROCEDURE

##### 1. Jurisdiction — Personal jurisdiction (§405.11).

Federal court in Iowa lacks specific personal jurisdiction over Washington, D.C. law firm and attorney named as defendants in action for professional malpractice, since defendants did not "purposefully direct" their activities at Iowa, given that defendants are charged only with negligently failing to pay maintenance fee on single patent, and that all work done in connection with that patent was performed in Washington, D.C., since single claim of legal malpractice with respect to payment of maintenance fee in Washington, D.C. cannot be said to have "arisen out of" or resulted from attorney-client relationship that began in Iowa 30 years earlier, since nature and quality of defendants' contacts with Iowa do not demonstrate how they "purposefully availed" themselves of privileges and protections of doing interstate patent work for plaintiff, and since quantity of defendants' contacts with Iowa alone does not change conclusion that assertion of personal jurisdiction over defendants would be fundamentally unfair.

Action by University of Iowa Research Foundation against Beveridge, DeGrandi, Weillacher & Young L.L.P. and Richard G. Young for professional malpractice. On defendants' motion to dismiss for lack of personal jurisdiction. Granted.

Edmund J. Sease and Jeffrey D. Harty, of Zarley, McKee, Thomte, Voorhees & Sease, Des Moines, Iowa, for plaintiff.

Lee H. Gaudineer and Carlton G. Salmons, of Austin, Gaudineer & Comito, Des Moines; Steven Verveniots and Mark K. Anesh, of Wilson, Elser, Moskowitz, Edel-